CHAPTER 53
FLAMMABLE AND COMBUSTIBLE LIQUIDS

[Prior to 11/27/02, see rules 661—5.250(101) to 661—5.450(101)]

661—51.1(101) Definitions. The following definitions apply to rules 661—51.1(101) through 661—51.350(101).

"Mobile air-conditioning system" means mechanical vapor compression equipment which is used to cool the driver or passenger compartment of any motor vehicle.

"NFPA" means the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269. References to the form "NFPA xx," where "xx" is a number, refer to the NFPA standard or pamphlet of the corresponding number.

661—51.2 to **51.99** Reserved.

661—51.100(101) Storage and handling of liquefied petroleum gases. NFPA 54, "National Fuel Gas Code," 1999 edition, and NFPA 58, "Liquefied Petroleum Gas Code," 2001 edition, are adopted by reference as the rules governing liquefied petroleum gases.

NFPA 54 is amended as follows:

Add the following sentence to section 1.4:

Individuals installing, testing, replacing, or servicing gas piping or systems which include gas piping shall perform such work in accordance with requirements set forth in NFPA 58.

Delete the exception to subsection 3.4.5.

Add the following new subsection 3.4.6:

3.4.6 Gas piping underground, outside a building, shall not be in physical contact with any concrete. Where it is necessary to install piping that will extend through or under an exterior concrete slab for connection to a regulator or other part of the system, before entering a building, the gas piping shall be sleeved. The sleeve shall extend through the concrete and be sealed only at the end extending above grade to prevent the entrance of insects, debris, or moisture.

NFPA 58 is amended as follows:

Add the following exception to subsection 1.4.1:

EXCEPTION: All permanent stationary installations on rooftops shall be prohibited.

Delete section 1.5 and insert in lieu thereof the following:

1.5 Qualification of Personnel.

1.5.1 Persons who transfer liquified petroleum gas, who are employed to transport liquified petroleum gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years. The training shall be documented.

1.5.2 Persons who install, service, test, or maintain propane gas utilization equipment, or gas piping systems of which the equipment is a part, or accessories, shall be trained in the proper procedures in accordance with applicable gas codes. Refresher training shall be provided at least every three years. The training shall be documented.

1.5.3 Completion of the Certified Employee Training Program of the National Propane Gas Association or of another training program that is substantially equivalent shall satisfy the training requirements of this section.

Delete subsection 3.2.10 and insert in lieu thereof the following:

3.2.10 Installation of Containers on Roofs of Buildings.

3.2.10.1 Installation of permanent, stationary containers on roofs of buildings shall be prohibited.

Delete section 3.4.9 and insert in lieu thereof the following:

3.4.9 Cylinders on Roofs or Exterior Balconies.

3.4.9.1 Cylinders installed permanently on roofs of buildings shall be prohibited.

3.4.9.2 Any cylinder having a water capacity greater than 2.7 lb (1 kg) [nominal 1 lb (0.5 kg) LP-Gas capacity] shall not be located on a balcony above the first floor that is attached to a multiple family dwelling of three or more living units located one above the other.

EXCEPTION: Any cylinder of not greater than 108 lb (49 kg) water capacity [nominal 45 lb (20 kg) LP-Gas capacity] located on a balcony served by an outside stairway, where only such stairway is used to transport the cylinder, shall not be prohibited.

EXCEPTION: Any cylinder of greater than 108 lb (49 kg) water capacity [nominal 45 lb (20 kg) LP-Gas capacity] shall be prohibited from being located on a balcony.

Delete subsection 4.2.2.1 and insert in lieu thereof the following:

4.2.2.1 Containers shall be filled only by the owner or upon the owner's authorization. Transfer of LP-Gas to and from a container shall be accomplished only by qualified persons who are trained in proper handling and operating procedures, who meet the requirements of section 1.5 and who are trained in emergency response procedures. Such persons shall notify the container owner and user in writing when a tank is not in compliance with section 2.2 or 2.3.

661—51.101(101) Transfer into container. No person shall transfer any liquefied petroleum gas into a container, regardless of the container's size, if the container has previously been used for the storage of any other product until the container has been thoroughly purged, inspected for contamination, provided with proper appurtenances, and determined suitable for use as a container for liquefied petroleum gas as prescribed in the standards established under rule 661—51.100(101).

661—51.102(101) Prohibition of certain refrigerants. The distribution, sale or use of refrigerants containing liquefied petroleum gas, as defined in Iowa Code section 101.1, for use in mobile air-conditioning systems is prohibited.

661—51.103 to **51.149** Reserved.

661—51.150(101) Production, storage, and handling of liquefied natural gas. NFPA 59A, "Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG)," 2001 edition, is adopted by reference as the rules governing liquefied natural gas.

661—51.151 to **51.199** Reserved.

661—51.200(101) Flammable and combustible liquids. NFPA 30, "Flammable and Combustible Liquids Code," 2000 edition, is adopted by reference as the rules governing flammable and combustible liquids, with the following amendments:

Delete subsection 2.3.2.5 and insert in lieu thereof the following:

2.3.2.5 Each connection to an aboveground tank through which liquid can normally flow shall be provided with an external control valve that is located as close as practical to the shell of the tank. In addition to the control valve or any other normal tank valves, there shall be an emergency internal check valve at each pipe connection to any tank opening below normal liquid level. The emergency internal check valve shall be effectively located inside the tank shell and shall be operable both manually and by an effective heat-activated device that, in case of fire, will automatically close the valve to prevent the flow of liquid from the tank even though the pipelines from the tank are broken.

EXCEPTION: Emergency internal check valves are not required on crude oil tanks in oil fields, on tanks at refineries, or on tanks at terminals which are equipped with a swing line or where facilities are provided to transfer the contents of the tank to another tank in case of fire.

Delete paragraph (b) of subsection 2.3.2.3.3 and insert in lieu thereof the following new paragraph (b):

(b) The tank system shall have top only openings and shall be either an Underwriters Laboratories-listed steel double-walled tank or an Underwriters Laboratories-listed steel inner tank with an outer containment tank wall constructed in accordance with nationally accepted industry standards (e.g., those codified by the American Petroleum Institute, the Steel Tank Institute and the American Concrete Institute).

Add the following new paragraphs to subsection 2.3.2.3.3:

(j) The tank fill opening shall be provided with a spill container that will hold at least 5 gallons.

(k) The interstitial tank space shall be monitored by an approved, continuous, automatic detection system that is capable of detecting liquids, including water. An automatic detection system may be either electronically or mechanically operated.

661—51.201(101) Storage, handling and use—plans approved.

51.201(1) Before any construction of new or replacement installations for the storage, handling or use of flammable or combustible liquids is undertaken in bulk plants, service stations or processing plants, drawings or blueprints made to scale shall be submitted in duplicate to the state fire marshal with an application for approval. Within a reasonable time after receipt of the application and drawings or blueprints, the state fire marshal will examine them and, if the fire marshal finds that they conform to the applicable requirements of this chapter, shall signify approval of the application by endorsement or attachment, retain one copy for the files and return to the applicant all other copies. If the drawings or blueprints do not conform to the requirements of this chapter, the fire marshal shall notify the applicant accordingly.

EXCEPTION: Plans for underground tank installations do not need to be submitted for approval if the plans have been approved in accordance with the provisions of 591—Chapter 15.

51.201(2) If the proposed construction or installation is to be located within a local jurisdiction which requires that a local permit first be obtained, the drawings or blueprints with the application for permit shall be submitted to the appropriate local official or body and then, except in case of dispute, need not be submitted to the state fire marshal. The local official or body shall require, as a condition to the issuance of the permit, compliance with the applicable requirements of this chapter. In the event of dispute as to whether the drawings or blueprints show conformity with the applicable requirements of this chapter, the plans and drawings shall be submitted to the state fire marshal whose decision shall be controlling.

51.201(3) Drawings shall show the name of the person, firm or corporation proposing the installation, the location and the adjacent streets or highways.

51.201(4) In the case of bulk plants, the drawings shall show, in addition to any applicable features required under subrules 51.201(6) and 51.201(7) and rule 661—51.206(101), with the exception of paragraph "4," the plot of ground to be utilized and its immediate surroundings on all sides; complete layout of buildings, tanks, loading and unloading docks, and heating devices, if any.

51.201(5) In the case of service stations, the drawings shall show, in addition to any applicable features required under subrules 5.201(6) and 5.201(7) and rule 661—51.206(101), with the exception of paragraph "4," the plot of ground to be utilized; the complete layout of buildings, drives, dispensing equipment, and greasing or washing stalls; and the type and location of any heating device.

51.201(6) In the case of aboveground storage, the drawings shall show the location and capacity of each tank; dimensions of each tank the capacity of which exceeds 50,000 gallons; the class of liquid to be stored in each tank; the type of tank supports; the clearances; the type of venting and pressure relief relied upon and the combined capacity of all venting and pressure relief valves on each tank; and the tank control valves and the location of pumps and other facilities by which liquid is filled into or withdrawn from the tanks.

51.201(7) In the case of underground storage, the drawings shall show the location and capacity of each tank; class of liquids to be stored; and the location of fill, gauge, vent pipes, openings and clearances.

51.201(8) In the case of an installation for storage, handling or use of flammable or combustible liquids within buildings or enclosures at any establishment or occupancy covered in this chapter, the drawing shall be in such detail as will show whether applicable requirements are to be met.

661—51.202(101) Motor vehicle and aircraft fuel dispensing.

51.202(1) Except as allowed by rule 661—51.203(101), NFPA 30A, "Automotive and Marine Service Station Code," 2000 edition, is adopted by reference as the rules governing dispensing motor vehicle fuel into the fuel tanks of motor-driven vehicles, with the following amendments:

Delete subsection 4.3.2.7 and insert in lieu thereof the following:

4.3.2.7 Each tank having a capacity of not more than 6,000 gallons for motor vehicle fuel dispensing systems that is located at a commercial, industrial, governmental, or manufacturing establishment, and that is intended for fueling vehicles used in connection with the establishment shall be located at least:

(a) 40 feet from the nearest important building on the same property;

(b) 40 feet away from any property that is or may be built upon, including the opposite side of a public way;

(c) 100 feet away from any residence or place of assembly.

EXCEPTION: All distances may be reduced by 50 percent for tanks installed in vaults that comply with subsection 4.3.3 or are UL-listed aboveground double-walled tanks that have a two-hour fire-resistive rating and that comply with subsection 4.3.4 or 4.3.5.

51.202(2) NFPA 407, "Standard for Aircraft Fuel Servicing," 2001 edition, is adopted by reference as the rules governing ground fuel servicing of aircraft with liquid petroleum fuel.

51.202(3) Any device dispensing Class I or Class II flammable liquids shall not be constructed or installed less than 100 feet from any existing dwelling unit.

661—51.203(101) Storage in isolated areas. NFPA 395, "Standard for the Storage of Flammable and Combustible Liquids at Farms and Isolated Sites," 1993 edition, is adopted by reference as the rules governing flammable and combustible liquids on farms and isolated construction projects.

661—51.204(101) Registration of existing and new tanks—fees. All existing, new, replacement and out-of-service aboveground tanks of 1101-gallon capacity or greater shall be registered with the state fire marshal. This requirement applies to aboveground tanks used to store petroleum, as defined in Iowa Code section 455B.471, which includes crude oil, heating oil offered for resale, motor fuels and oils such as gasoline, diesel fuels and motor oil.

51.204(1) *Registration form.* Registration forms for aboveground storage tanks may be obtained from the fire marshal division. A completed registration form shall be submitted to the fire marshal division by the date on which it is due and shall be accompanied by a check, draft or money order made payable to the Fire Marshal Division, Iowa Department of Public Safety, for $10 for each tank registered or reregistered. Cash will not be accepted.

51.204(2) *Registration deadlines and late fees.* All tanks registered prior to October 1, 1999, are due to be reregistered on October 1, 2000, and October 1 of each year thereafter. Any tank registered for the first time on or after October 1, 1999, is due to be reregistered on the first day of the month following the anniversary date of the initial registration and on the same date of each year thereafter. A late fee of $25 per tank shall be imposed for failure to register a tank or tanks prior to the last day of the month in which the registration fee is due.

661—51.205(101) Underground leakage of flammable and combustible liquids. NFPA 329, "Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases," 1999 edition, is adopted by reference as the rules governing underground leakage of flammable and combustible liquids, with the following amendment:

Add the following new subsection 5-3.2.6:

5-3.2.6 Testing Underground Tanks. Air tests of underground tanks or piping containing product shall not be permitted.

661—51.206(101) Observation wells. Observation wells may be required on new and existing tanks when a high environmental risk exists or in the event of suspected tank failure or leakage. When installed pursuant to this rule, an observation well shall be:

1. A minimum of 4 inches in diameter and adequately identified to avoid confusion with product fill openings.
2. Installed to a depth of 24 inches below the tank bottom or to the top of the concrete slab, if the slab is used for anchoring.
3. Installed with pipe section having 0.020-inch maximum slots with the slots extending to within approximately 12 inches of grade.
4. Capped and protected from traffic.

661—51.207 to **51.249** Reserved.

661—51.250(101) Oil burning equipment. NFPA 31, "Standard for the Installation of Oil Burning Equipment," 2001 edition, is adopted by reference as the rules governing oil burning equipment.

661—51.251 to **51.299** Reserved.

661—51.300(101) Stationary combustion engines and gas turbines. NFPA 37, "Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines," 2002 edition, is adopted by reference as the rules governing the installation and use of stationary combustion engines and gas turbines in the state of Iowa.

661—51.301 to **51.349** Reserved.

661—51.350(101) Tank vehicles for flammable and combustible liquids. NFPA 385, "Standard for Tank Vehicles for Flammable and Combustible Liquids," 2000 edition, is adopted by reference as the rules governing the transport and loading of flammable and combustible liquids, with the following amendment:

Delete subsection 1.2.16.

These rules are intended to implement Iowa Code chapter 101.

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CHAPTER 52
Reserved